What is claimed is:

1. A negative resist composition, comprising:

(a) a silicon-containing polymer with pendant fused moieties selected from the group consisting of fused aliphatic moieties, homocyclic fused aromatic moieties, and heterocyclic fused aromatic and sites for reaction with a crosslinking agent,

(b) an acid-sensitive crosslinking agent, and

(c) a radiation-sensitive generator

2. The resist composition of claim 1 where the silicon containing polymer comprises silsesquioxane-containing monomers.

3. The resist composition of claim 1 where the fused moieties comprise anthracene moieties.

4. The resist composition of claims 1 wherein the silicon containing polymer is a poly(4-hydroxybenzylsilsesquioxane).

5. The resist composition of claim 1 wherein said composition contains, on a solids basis, about 50-98 wt.% of (a), about 1-50 wt.% of (b), and about 1-20 wt.% of (c).

6. The resist composition of claim 1 wherein the acid catalyzable crosslinking agent is selected from the group consisting of tetramethoxymethyl glycouril, methylpropyl tetramethoxymethyl glycouril and methylphenyl tetramethoxy methyl glycouril.

7. The resist composition of claim 1 wherein the acid generator is at least one compound selected from the group consisting of nitrobenzyl compounds, onium salts, sulfonates and carboxylates, and wherein the acid generator is capable of generating a bulky acid containing at least 4 carbon atoms.

8. The resist composition of claim 1 wherein the acid generator is at least one compound selected from the group consisting of di(t-butylphenyl) iodonium perfluorobutane sulfonate, di(t-butylphenyl) iodonium perfluorohexane sulfonate, di(t-butylphenyl) iodonium perfluorooctane sulfonate, di(t-butylphenyl) iodonium perfluorooctane sulfonate, di(t-butylphenyl) iodonium perfluoroethylcyclohexane sulfonate, and di(t-butylphenyl) iodonium camphoresulfonate.

9. The resist composition of claim 1 wherein further contains a solvent (d).

10. The resist composition of claim 9 wherein further contains a base (e) and a surfactant (f).

11. The resist composition of claim 10 wherein the resist composition comprises from about 0.1 to about 50 wt.% of component (a); from about 0.005 to about 40 wt.% of component (b); from about 0.001 to about 14 wt.% of component (c); and from about 40 to about 99.5 wt.% of component (d); from about 0.001 to about 8 wt.% component (e); from about 0.001 to about 16 wt.% of component (f); and from about 100 to about 1000 PPM wt.% of component (g).

12. The resist composition of claim 11, which comprises from about 0.5 to about 30 wt.% of component (a); from about 0.05 to about 20 wt.% of component (b); from about 0.005 to about 10 wt.% of component (c); from about 80 to about 98 wt.% of component (d); and, if present, from about 0.002 to about 2 wt.% of component (e), from about 50 to about 800 PPM wt.% of component (f), and from about 250 to about 1000 PPM wt.% of component (g).

13. The resist composition of claim 9 wherein the solvent is at least one compound selected from the group consisting of ethers, glycol ethers, aromatic hydrocarbons, lactones and esters.

14. The resist composition of claim 10 wherein the base is at least one compound selected from the group consisting of coumarin, berberine, cetyltrimethylammonium hydroxide, 1,8-bis(dimethylamine)-naphthalene, tetrabutyl ammonium hydroxide, amines

and polymeric amines.

15. The resist composition of claim 10 wherein the surfactant is a fluorine-containing surfactant or a siloxane-containing surfactant.

16. A method of forming a patterned material layer on a substrate, said method comprising:

(a) providing a substrate having a material layer on a surface,

(b) providing a layer of resist over said material layer, said resist comprising:

(i) a silicon-containing polymer with pendant fused moieties selected from the group consisting of fused aliphatic moieties, homocyclic fused aromatic moieties, and heterocyclic fused aromatic moieties and sites for reaction with a crosslinking agent,

(ii) an acid-sensitive crosslinking agent, and

(iii) a radiation-sensitive acid generator;

(c) patternwise exposing the resist layer to imaging radiation,

(d) removing portions of the resist layer not exposed in step (c) to create spaces in said resist layer corresponding to said pattern,

(e) removing portions of the material layer at said spaces formed in step (d).

17. A method of claim 16 wherein the material layer is a metal layer.

18. A method of claim 16 wherein the imaging radiation is electron beam radiation.

19. The method of claim 16 wherein the imaging radiation is i-line radiation.

20. The method of claim 16 wherein the portions of the material layer is removed using reaction ion electing in O_2 and/or Cl_2

21. The method of claim 16 wherein the silicon containing polymer is a poly(4-hydroxybenzlysilsesquioxane).

22. The method of claim 16 wherein the composition contains about 50-98 wt.% of (a), about 1-50 wt.% of (b), and about 1-20 wt.% of (c).

23. The method of claim 16 wherein the acid catalyzable crosslinking agent is selected from the group consisting of tetramethoxymethyl glycouril, methylpropyl tetramethoxymethyl glycouril and methylphenyl tetramethoxy methyl glycouril.

24. The method of claim 16 wherein the acid generator is at least one compound selected from the group consisting of nitrobenzyl compounds, onium salts, sulfonates and carboxylates, and wherein the acid generator is capable of generating a bulky acid containing at least 4 carbon atoms.

25. The method of claim 16 wherein the acid generator is at least one compound selected from the group consisting of di(t-butylphenyl) iodonium perfluorobutane sulfonate, di(t-butylphenyl) iodonium perfluorohexane sulfonate, di(t-butylphenyl) iodonium perfluorooctane sulfonate, di(t-butylphenyl) iodonium perfluorooctane sulfonate, di(t-butylphenyl) iodonium perfluoroethylcyclohexane sulfonate, and di(t-butylphenyl) iodonium camphoresulfonate.

26. The method of claim 16, which further contains a solvent (d).

27. The method of claims ~~26~~, which further contains a base (e) and a surfactant (f).

28. The method of claim ~~27~~ wherein the resist composition comprises from about 0.1 to about 50 wt.% of component (a); from about 0.005 to about 40 wt.% of component (b); from about 0.001 to about 14 wt.% of component (c); and from about 40 to about 99.5 wt.% of component (d); from about 0.001 to about 8 wt.% component (e); from about 0.001 to about 16 wt.% of component (f); and from about 100 to about 1000 PPM wt.% of component (g).

29. The method of claim ~~28~~, which comprises from about 0.5 to about 30 wt.% of component (a); from about 0.05 to about 20 wt.% of component (b); from about 0.005 to

about 10 wt.% of component (c); from about 80 to about 98 wt.% of component (d); and, if present, from about 0.002 to about 2 wt.% of component (e), from about 50 to about 800 PPM wt.% of component (f), and from about 250 to about 1000 PPM wt.% of component (g).

30. The method of claim 26 wherein the solvent is at least one compound selected from the group consisting of ethers, glycol ethers, aromatic hydrocarbons, lactones and esters.

31. The method of claim 27 wherein the base is at least one compound selected from the group consisting of coumarin, berberine, cetyltrimethylammonium hydroxide, 1,8-bis(dimethylamine)-naphthalene, tetrabutyl ammonium hydroxide, amines and polymeric amines.

32. The method of claim 27 wherein the surfactant is a fluorine-containing surfactant or a siloxane-containing surfactant.

33. The method of claim 16 wherein said fused moieties comprise homocyclic fused aromatic moieties.